

ABSTRACT OF THE DISCLOSURE

5 Provided is a projection optical system for
forming an image of a pattern of a first object (R) on
a second object (W). The projection optical system is
made of an optical material having a refractive index
of not more than 1.6 and is substantially telecentric
both on the first object side and on the second object
side. The projection optical system satisfies the
condition of $(\lambda \times L)/(NA \times Y_0^2) < 1.5 \times 10^{-3}$, where λ is
10 a wavelength of light, L a distance between the first
object and the second object, NA a numerical aperture
on the second object side, and Y_0 a maximum image
height on the second object.